

What is claimed is:

1. A phase edge phase shift mask comprising:

a transparent substrate having a top surface beneath which a trench constituting a 180° phase shift region is defined, a sidewall surface extending from said top surface and defining the sides of the trench, and a bottom surface extending from said sidewall surface and defining the bottom of the trench; and

an auxiliary pattern disposed on at least one of said top and bottom surfaces of said substrate as spaced laterally along said at least one of the top and bottom surfaces from said sidewall surface defining the sides of the trench.
2. The mask as claimed in claim 1, wherein the auxiliary pattern is disposed on at least one of a central portion of the top surface of the quartz substrate and a central portion of the bottom surface defining the bottom of the trench.
3. The mask as claimed in claim 1, wherein the auxiliary pattern is of an optical interference material.
4. The mask as claimed in claim 1, wherein the auxiliary pattern is of an opaque material.

5. The mask as claimed in claim 5, wherein the auxiliary pattern is of chromium.
6. The mask as claimed in claim 1, wherein the auxiliary pattern has a line width of 30 nm to 200 nm.
7. A method of fabricating a phase edge phase shift mask, the method comprising:
 - providing a transparent substrate;
 - etching the quartz substrate to form a trench in the substrate, the trench being situated beneath a top surface of the substrate and having sides defined by a sidewall surface of the substrate and a bottom defined by a bottom surface of the substrate;
 - forming a layer of material on the substrate at the side thereof in which the trench is formed; and
 - etching the layer of material to form an auxiliary pattern therefrom on at least one of said top and bottom surfaces of said substrate as spaced laterally along said at least one of the top and bottom surfaces from said sidewall surface defining the sides of the trench.

8. The method as claimed in claim 7, wherein said forming a layer of material on the substrate comprises forming a layer of an optical interference material on the substrate.

9. The method as claimed in claim 7, wherein said forming a layer of material on the substrate comprises forming a layer of an opaque material on the substrate.

10. The method as claimed in claim 9, wherein the opaque material is chromium.

11. The method as claimed in claim 7, wherein said etching a portion of the material comprises forming an auxiliary pattern having a line width of 30 nm to 200 nm on at least one of said top and bottom surfaces of said substrate as spaced laterally along said at least one of the top and bottom surfaces from said sidewall surface defining the sides of the trench.